

REMARKS

Claims 1-8 and 10-17 are pending, the independent claims are claims 1 and 11. Claims 1 and 11 were rejected under §103 as obvious over Gilder US Pat. Appln. 2002/014404.

Claims 1 and 11 are amended to emphasize that the blades are narrow by including the recitation that the blade length, as defined by a length from a tip extending rearward, is less than 1 mm, and that the blades are mounted on movable support members, and that the support members are aligned so that their depending leg portions are generally perpendicular to a shaving surface approximately intersecting the blade cutting edges, as shown in original Figures 7 and 3 and discussed in the original specification at pages 4, lines 11-12. Further support is also confirmed in the discussion of Blade Tangent Angle ("BTA") on page 2, lines 1-2, and the angle (Alpha) between the blade platform portion (406) and the base portion (402) of the somewhat "L"-shaped bent blade support (400). It will be recalled that the angle that the lower base portion (402) of the blade support makes with respect to an imaginary plane generally intersecting the blade cutting edges is given by the relation: (Alpha angle – BTA angle), or to illustrate with the working examples in the specification:

a Blade Support Alpha Angle (α) of 108° minus a BTA of $18^\circ = 90^\circ$, or using the preferred embodiment Alpha Angle of 111.5° – a BTA of 21.5° yields also $= 90^\circ$. This flows clearly and unambiguously from the definition of BTA known in the prior art to a person of ordinary skill.

To assist in further understanding the BTA, for background information this is exemplified by two prior art U.S. Patents appended to this response as Exhibit A and Exhibit B, which are Dorian U.S. Pat. 3,786,563 and Trotta U.S. Pat. 4,282,650. As discussed, e.g., in Dorian '563 at column 1, lines 39-43,

"Blade Tangent Angle [BTA] is defined as the angle between the bisector of the included angle of the cutting edge and a line from the cutting edge tangent to the skin engaging surface immediately forward of that cutting edge."

See also the Trotta '650 Patent at Fig. 6 and at column 4, lines 31 et seq. quoting from the Dorian '563 patent. With reference to the Dorian '563 Patent, see Figure 5 (the title page

figure) and further discussion at column 5, lines 13-20 and 29-32, which in that example define Angle A_L of the leading blade 36 in relation to the angle between line 158 (a reference line which bisects the included angle of the cutting edge 80_L) and the line 160 that extends from cutting edge 80_L of blade 36 to the skin engaging region on guard member 34.

Since the blade is fixed to the blade support, then a blade set to the disclosed range of BTA in the present application causes the depending leg of the blade support (formed at 108° to 115° to the platform region) to adopt a position as shown in Figure 3 and thus be generally 90° to an imaginary plane intersecting the cutting edges. This promotes movability of the blade supports within the housing.

Dependent claims 12-15 directed to preferred blade lengths are supported at page 4, lines 11-12.

An advantage of the blade unit according to independent claims 1 or 11 is that it provides for at least five blades so as to desirably distribute loading forces of the blades against the skin while allowing good skin conformance and still providing desired rinsability and ability to clear shaving debris from between the blades and the blade supports, by keeping the blade length less than 1 mm, the span can be made small enough to solve the packaging problem involved in a trade-off between closeness and load distribution and also rinsability.

The cited Gilder 2002/0144404 reference does not show or suggest five blades, nor the use of such "L"-shaped supports nor the small blade length claimed herein. Gilder is concerned with maintaining a certain "wash-through index" of rinsability, and he doesn't inform whether this would be negatively impacted by having more blades. Gilder does not state the width of the blade strips but suggests they are about the size of the inter-blade span, which Examiner noted to be 1.11 mm in paragraphs [0025] and [0031], thus teaching away from the small blade length recited in the amended claims. Gilder also teaches that the blade supports do not protrude rearwardly of the rear edges of the blades, since it appears he wants to keep the blade support completely "in the shadow" of the blade itself (i.e., in a top down view) so that the blade support cannot influence or

detract from the desired “wash-through index”, thus Gilder for this reason also teaches a larger blade length than claimed here since it is otherwise would be a problem to mount narrower blades for which Gilder offers no solution. In contrast, the invention of Applicant’s amended claims makes a trade-off between blade stability and rinsability by using narrow blades and the stability provided by “L”-shaped blade supports. Furthermore, the Gilder blades appear incompatible with the relatively wider blades of the other cited prior art references and with their blade support constructions, which would violated Gilder’s constraint that the blade support not influence the wash-through.

The narrow blade lengths enabled by Applicant’s construction are further specified in dependent claims 12-15. The aspect of the blade supports is a feature of dependent claims 16-17.

Reference numerals have been inserted in claims 1 and 11 solely as a matter of convenience as permissible under M.P.E.P. §608.01(m) which specifies that its use “is to be considered as having no effect on the scope of the claims.”

The amendments to the Specification required in the Office Action have been made, these having been of a clarifying nature. The amendment at page 2, lines 6-8, being made to avoid the repetition of “to” and “too” while preserving the original meaning, it being respectfully pointed out that “to a large extent” is indeed correct idiomatic English indicating an extent of something, and the adjective “too” having been meant to qualify “large.” The cap 24 (page 2, line 26) is now shown in Figure 1.

The Drawing objections are dealt with as discussed above. Blade Tangent Angle has been extensively discussed above, and is indicated as the angle β on Figure 8. Blade “exposure” is defined and discussed in the original specification at page 3, line 9-17, wherein it also references the Gilder ‘777 Patent. The concept of blade exposure is a well-known metric to one of ordinary skill in the art, as shown by its treatment for example in the cited prior art Gilder ‘777 Patent e.g. at Figure 2. Figure 8 illustrates the imaginary planes to which exposure is referenced. Briefly summarized, for the primary

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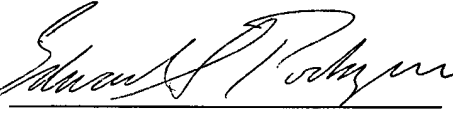
blade the negative exposure has the primary blade edge below a reference plane, and for the last blade with positive exposure has the last blade edge above the reference plane.

An I.D.S. was filed on April 13, 2006 making the Search Report in a corresponding PCT application of record.

The claims are believed allowable, and a Notice of Allowance respectfully solocited.

Respectfully submitted,

THE GILLETTE COMPANY

By 
Signature

Date: April²⁴, 2006
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AMENDMENTS TO THE DRAWINGS

Figure 1 is amended to insert reference numeral "24" for the cap, as disclosed at page 2, line 26.

Figure 4 is amended to correct reference numeral "200" to the numeral "28" used on the figure as originally filed. A typographical error occurred in preparing the formal drawing, the originally filed informal drawing used the correct numeral "28", which appears in the description of the drawing at e.g. page 4 lines 6-7.

Figure 7 is amended to add reference numerals 408 to the cutting edge and 450 to the blade end, as originally disclosed at page 4, line 11.

Formal Drawing sheet containing amended Figure 8 is submitted herewith for approval, as requested in the Office Action under "Drawings Objection". This figure now has reference lines indicated thereon to a blade tangent angle β , which is subject matter of original claim 6, and a dashed line imaginary plane to assist in identifying blade exposure, which is subject matter of original claims 7 or 8. No new matter has been entered.